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## THE GENUS LAMPROSPORA, WITH DESCRIPTIONS OF TWO NEW SPECIES

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(WITH PLATE 57, CONTAINING 8 FIGURES)

The genus *Lamprospora* was founded by De-Notaris in 1864, with *Ascobolus miniatus* Crouan, one of the globose-spored operculate cup-fungi as its monotype.

In 1869 Fuckel published the genus *Crouania* with *Crouania miniata* (Crouan) Fuckel as the type of the genus. This name is untenable, having been previously used for a genus of algae,[1] and in addition is antedated by the above name.

In 1889 the name *Barlaea* was proposed by Saccardo with *Crouania* Fuckel as a synonym. This name is also untenable, having been previously used for a genus of flowering plants.[2] Saccardo discovering this fact, later published the genus *Barlaeina* with *Barlaea* Sacc. as a synonym.

*Lamprospora* therefore appears to be the proper name to be used for the smaller plants of the globose-spored type of operculate discomycetes, except those which are commonly placed with the Ascobolaceae, through its priority of date and with the additional fact that two of the more recent generic names proposed are untenable for reasons mentioned above.

For several years past the writer has been interested in the col-

[1] Agardh, J. G., Alg. Mar. Med. 83. 1842.

[2] Reichenbach, H. G., Linnaea 41 : 54. 1877.

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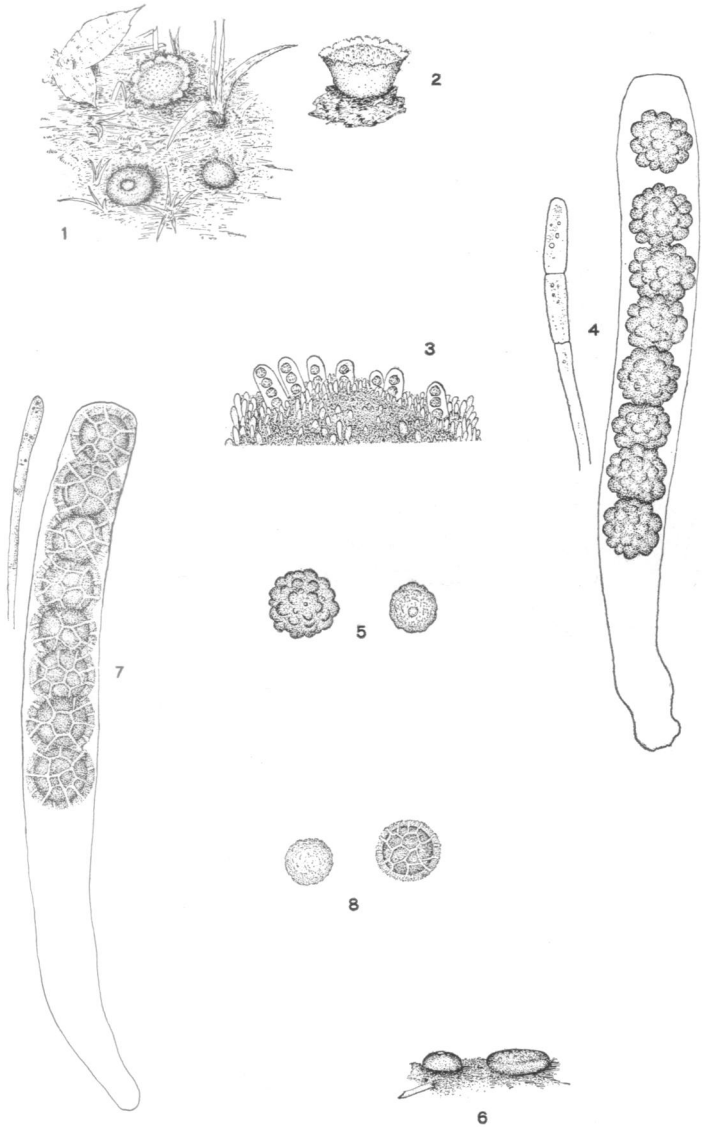


1–5. LAMPROSPORA TUBERCULATA SEAVER
6–8. LAMPROSPORA AREOLATA SEAVER

lection and study of these minute but interesting plants and the recent collection of two apparently undescribed species has prompted the writing of the present paper. For the following reasons both the collection and study of the plants of this genus is difficult and unsatisfactory.

1. The plants are often so small that they are easily overlooked and for this reason seldom collected.

2. The descriptions of the known species are so fragmentary that in many cases they do not render the plants recognizable.

3. The type specimens preserved in the ordinary way are of little value since the plants, at best small, become much smaller on drying and are often lost with the crumbling earth on which they usually grow.

These difficulties are partly compensated by the fact that while the plants are very small the spores, as a rule, are unusually large. In addition to their large size they are often sculptured, the nature of the sculpturing furnishing valuable diagnostic characters. The type species of the genus has the spores covered with delicate, shallow reticulations. Other species have the spores marked with deep reticulations, sharp spines, minutely verrucose or coarsely tuberculate. In a number of species the spores are smooth and we must in such cases rely upon other diagnostic characters. In addition to the preservation of plants on the substratum for the study of gross characters in the ordinary way microscopic slides should be preserved, especially in those forms in which the spores furnish diagnostic characters. With careful drawings and descriptions from fresh material and specimens preserved in the above manner the species of the genus should be made recognizable.

The plants of this genus show rather close relationship with some of the Ascobolaceae both in the character of the spores and asci as well as in the protrusion of the asci above the surface of the hymenium, the latter character being the one on which the Ascobolaceae are distinguished from the Pezizaceae. To the writer it seems very doubtful if there is any morphological character by which these two families can be separated. The most natural classification of the true cup-fungi (Pezizales) to my

mind, is that proposed by Boudier,[3] *i. e.,* to separate them into the operculate and non-operculate forms. The former group would include those in which the asci open by an operculum or lid and the latter those in which the asci open by a pore. As pointed out by Boudier these characters are accompanied by numerous others which strongly suggest a natural division. This classification would throw together the Ascobolaceae and Pezizaceae unless some morphological character can be discovered on which they can be distinguished other than that which is commonly used. The occurrence of many of the Ascobolaceae on the dung of animals is a convenient character but there are so many exceptions that this can hardly be relied upon as a characteristic of the family. If the Ascobolaceae are kept distinct on the character usually employed, the protrusion of the asci, at least some of the species of the genus *Lamprospora* should be placed among the Ascobolaceae. Whether the entire genus should be transferred I am uncertain. To my mind the most natural thing would be to ignore the family distinctions of the Ascobolaceae and Pezizaceae and key out the genera regardless of this family distinction.

LAMPROSPORA De-Not. Comm. Critt. Ital. 1: 388. 1864

*Crouania* Fuckel, Symb. Myc. 320. 1869.
*Barlaea* Sacc. Syll. Fung. 8: 111. 1889.
*Barlaeina* Sacc. Syll. Fung. 14: 30. 1899.

Plants small, scarcely exceeding 5 mm. in diameter, concave, plane or slightly convex, usually bright-colored or more rarely pallid, fleshy, hymenium often roughened by the protruding asci; asci 8-spored, operculate; spores comparatively large, globose, at first smooth, at maturity often sculptured, verrucose, echinulate, reticulate or tuberculate or permanently smooth, hyaline; paraphyses numerous and usually clavate.

Type species, *Ascobolus miniatus* Crouan.

**Lamprospora tuberculata** sp. nov.

Plants small, 0.5–1 mm. in diameter, hymenium gradually expanding, at maturity plane or slightly convex, bordered by a

[3] Boudier, E., On the importance that should be attached to the dehiscence of asci in the classification of the discomycetes. Grevillea 8: 45–48. 1879.

delicate fringe, pale orange; hymenium roughened by the protruding asci; asci cylindric, operculate, 15–18$\mu$ in diameter; spores globose, at first smooth with a large oil-drop, gradually becoming roughened, at maturity coarsely tuberculate, about 16$\mu$ in diameter, hyaline; paraphyses clavate (*pl. 57, f. 1–5*).

On damp soil among moss in open places; type collected near Yonkers, New York. The same species has been collected by the writer in New Jersey and by Mr. B. O. Dodge in Virginia.

**Lamprospora areolata** sp. nov.

Plants small, 0.5–1 mm. in diameter, at first globose opening rather irregularly, at maturity with the hymenium plane or slightly convex, more or less roughened by the ends of the asci, bright red; asci cylindric, 15–18$\mu$ in diameter, 8-spored; spores globose, at first smooth, with a large oil-drop, becoming rough at maturity deeply areolate, about 16$\mu$ in diameter; paraphyses clavate (*pl. 57, f. 6–8*).

On soil among moss in a beaten path in woods near Yonkers, New York.

Both the plants and the spores are similar to *Humaria calospora* Quél. as figured by Boudier in Ic. Myc. *pl. 400,* except that the spores are perfectly globose instead of ellipsoid.